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**United States Department of Energy**

**Savannah River Site**

**Explanation of Significant Difference (ESD) to the  
Revision 1 Record of Decision Remedial Alternative  
Selection for the Silverton Road Waste Unit (731-3A) (U)**

**CERCLIS OU Number: 13**

**WSRC-RP-2004-4092**

**Revision 1.1**

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## Introduction

This Explanation of Significant Difference (ESD) is being issued by the United States Department of Energy (USDOE), the lead agency for the Savannah River Site (SRS) remedial activities, with concurrence by the United States Environmental Protection Agency (USEPA) – Region 4 and the South Carolina Department of Health and Environmental Control (SCDHEC). The purpose of this ESD is to announce changes in the remedial decision selected for the Silverton Road Waste Unit (SRWU). The SRWU, 731-3A, is located in the northwestern part of the SRS in Aiken County, approximately 1.5 miles southwest of A/M Area (Figure 1).

The remedial action selected in the *Record of Decision Remedial Alternative Selection for the Silverton Road Waste Unit (731-3A) (U)* (WSRC-RP-96-171, Revision 1, February 1997), which was signed by the USDOE on February 26, 1997, the USEPA on March 27, 1997, and the SCDHEC on April 22, 1997, is Institutional Controls with groundwater monitoring. Based on minimal and infrequent exceedances of maximum contaminant levels (MCLs), active remediation of groundwater in the SRWU “M Area” aquifer was not required. However, a confirmatory groundwater-monitoring program was established to ensure that this was the appropriate remedial action for the “M Area” groundwater aquifer. The confirmatory groundwater-monitoring program demonstrated that the remedial goals for groundwater have been reached. This ESD provides the rationale

for changing the remedy to Institutional Controls only. This modification will not have an adverse impact on human health or the environment.

SRS is required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 117 (c) to publish an ESD whenever there is a significant change to a component of a remedy specified in a Record of Decision (ROD). Section 300.435 (c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) requires the lead agency to provide an explanation of the differences and to make this information available to the public in the Administrative Record File (ARF) and information repositories. This ESD is part of the ARF and is available for public review during normal business hours at the following information repositories.

US Department of Energy  
Public Reading Room  
Gregg-Graniteville Library  
University of South Carolina - Aiken  
171 University Parkway  
Aiken, SC 29801  
(803) 641-3465

Thomas Cooper Library  
Government Documents Department  
University of South Carolina  
Columbia, SC 29208  
(803) 777-4866

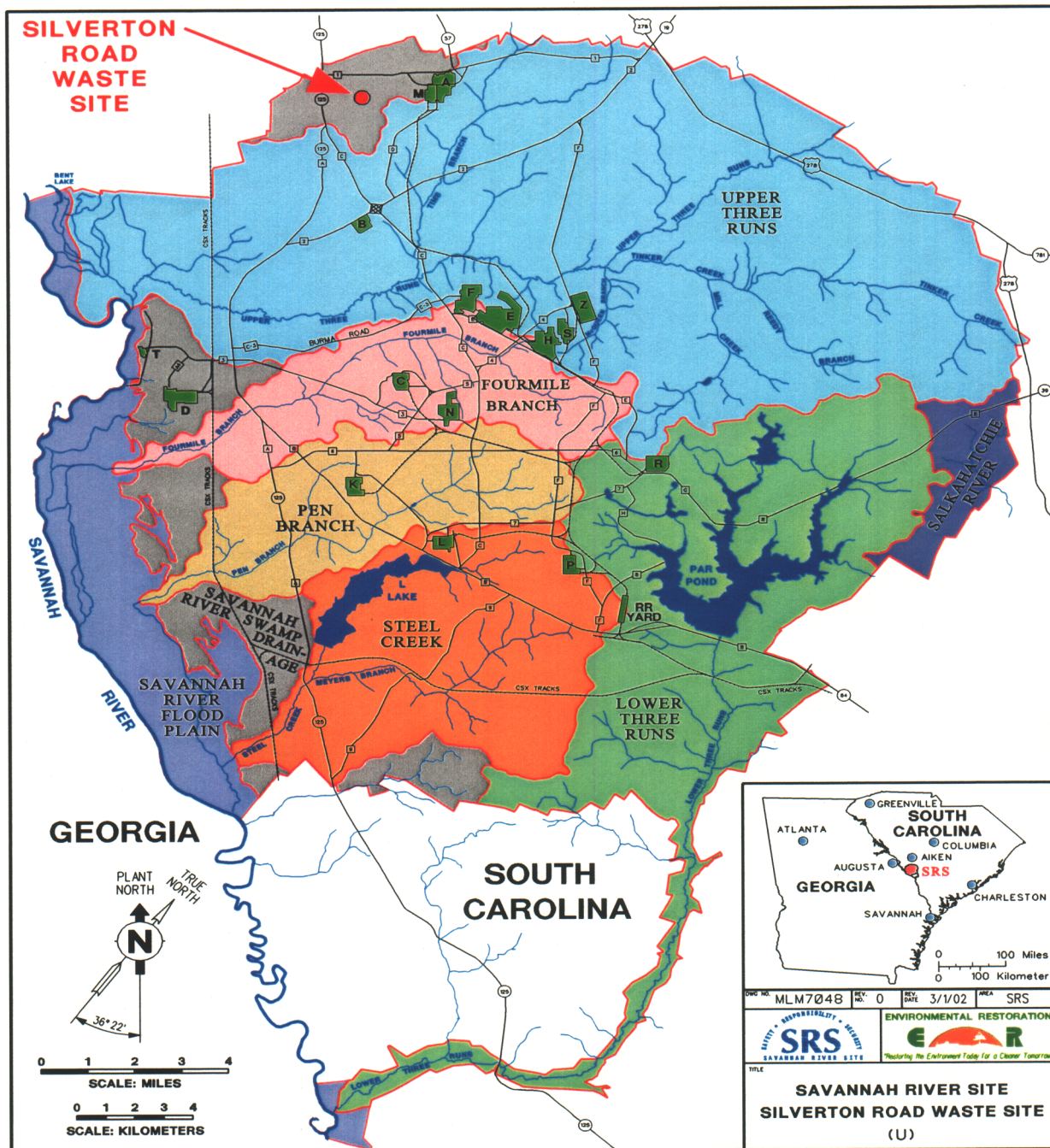


Figure 1. SRWU General Site Location

### **Summary of Site History, Contamination Problems, and Selected Remedy**

The SRWU, 731-3A, is located in the northwestern part of the SRS in Aiken County, approximately 1.5 miles southwest of A/M Area. The site is not located in or near an environmental sensitive area and is unpopulated.

The SRWU was first used before construction of the SRS. Although there is no written record of when disposal began at the SRWU, or what materials were accepted, it is believed that the SRWU was originally a borrow pit used as an "open dump" by the local municipalities, including Old Ellenton, before the land was acquired by the Federal government. Municipal, agricultural, and commercial trash, rubbish, garbage, debris, and refuse probably constituted the waste stream until the early 1950s.

After procurement by the federal government, the SRWU land continued to be used as an open dump (a legal practice at the time) by SRS. Historical and aerial photographs show large piles of metal shavings (possibly aluminum), 55-gallon drums, cardboard drums, tires, lumber, wooden pallets, cardboard, construction debris, tanks, possibly asbestos, and other unidentified metal and wood objects. No records of waste disposal activities were kept. In 1974, the disposal of waste at the SRWU ceased, and the area was bulldozed, graded, covered with soil, and planted with grasses.

The SRWU area is an irregular quadrilateral, covering approximately 10 acres that contains an unlined earthen depression dug into surficial soils which was later filled with various waste

materials. This area has been designated as "excavated area (filled)" on Figure 2. Soil borings conducted in 1993 identified the presence of waste buried beyond the excavated area. The total area of waste disposal is within the orange boundary lines (see Figure 2). Consistent with the identification of Federal Facilities Agreement (FFA) waste units under Institutional Controls, the orange ball markers, which delineate the boundaries of the SRWU, will be removed and replaced with geodetic survey markers. A post with a reflector will be placed at each marker location (see Figure 2). The identification signs (see Figure 2) delineate the area under Institutional Controls. The waste disposal area covers an area of approximately 750 feet by 600 feet with waste being buried to a maximum depth of approximately 16 feet below ground level. The average estimated depth to the waste is approximately 6 feet.

The SRWU is located on the southwestern flank of an interstream divide between Upper Three Runs Creek (approximately 4.5 miles to the southeast) and the flood plain of the Savannah River (approximately 1.5 miles to the west). The ground surface elevation at the unit averages 350 feet above mean sea level. Surface drainage is southwestward, along a series of dry-wash tributaries, into the flood plain of the Savannah River (Figure 1). The water table at the SRWU ranges from about 40 feet below ground level to the southwest to about 130 feet below ground level to the northeast. In the "M Area" groundwater aquifer, low levels of contaminants



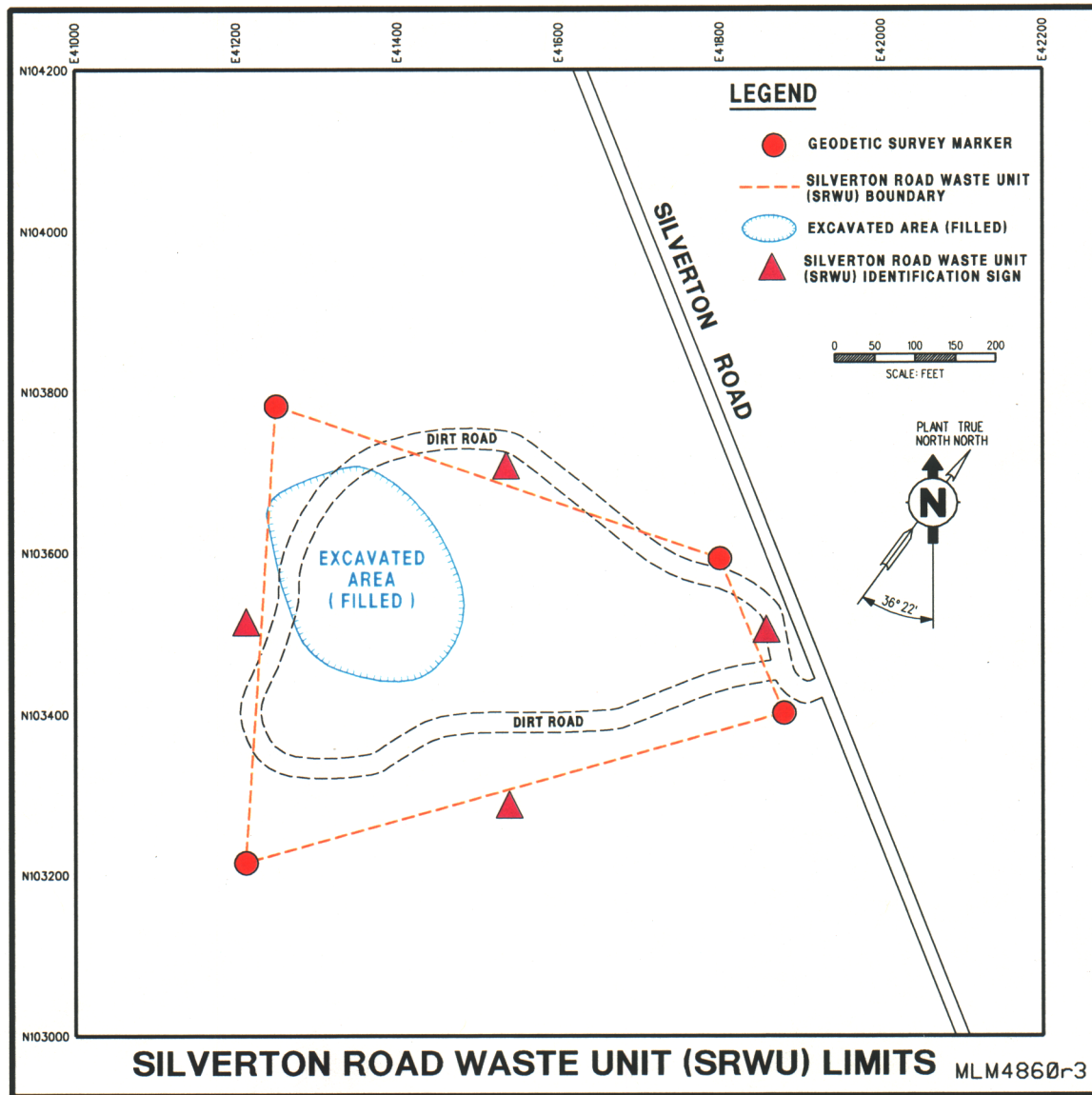


Figure 2. SRWU Limits

[1,2-dichloroethane (1,2-DCA), carbon tetrachloride, dichloromethane, tetrachloroethylene (PCE), and trichloroethylene (TCE)] have been detected, which minimally and infrequently exceed MCLs. The probable condition for the "M Area" groundwater aquifer is no significant groundwater contamination is resulting from the SRWU.

The groundwater in the lower aquifers is not within the scope of the SRWU ROD. The groundwater in the lower aquifers is being evaluated as part of the SRS Resource Conservation and Recovery Act (RCRA) Permit.

According to the *Final RCRA Facility Investigation (RFI)/Remedial Investigation (RI) Report for the Silverton Road Waste Unit (U)* (WSRC-RP-95-214, Revision 1.2, April 1996) and the *Final Baseline Risk Assessment (BRA) for the Silverton Road Waste Unit (U)* (WSRC-RP-95-215, Revision 1.1, January 1996), the SRWU poses no significant risk to the environment and minimal risk to human health from exposure to soils.

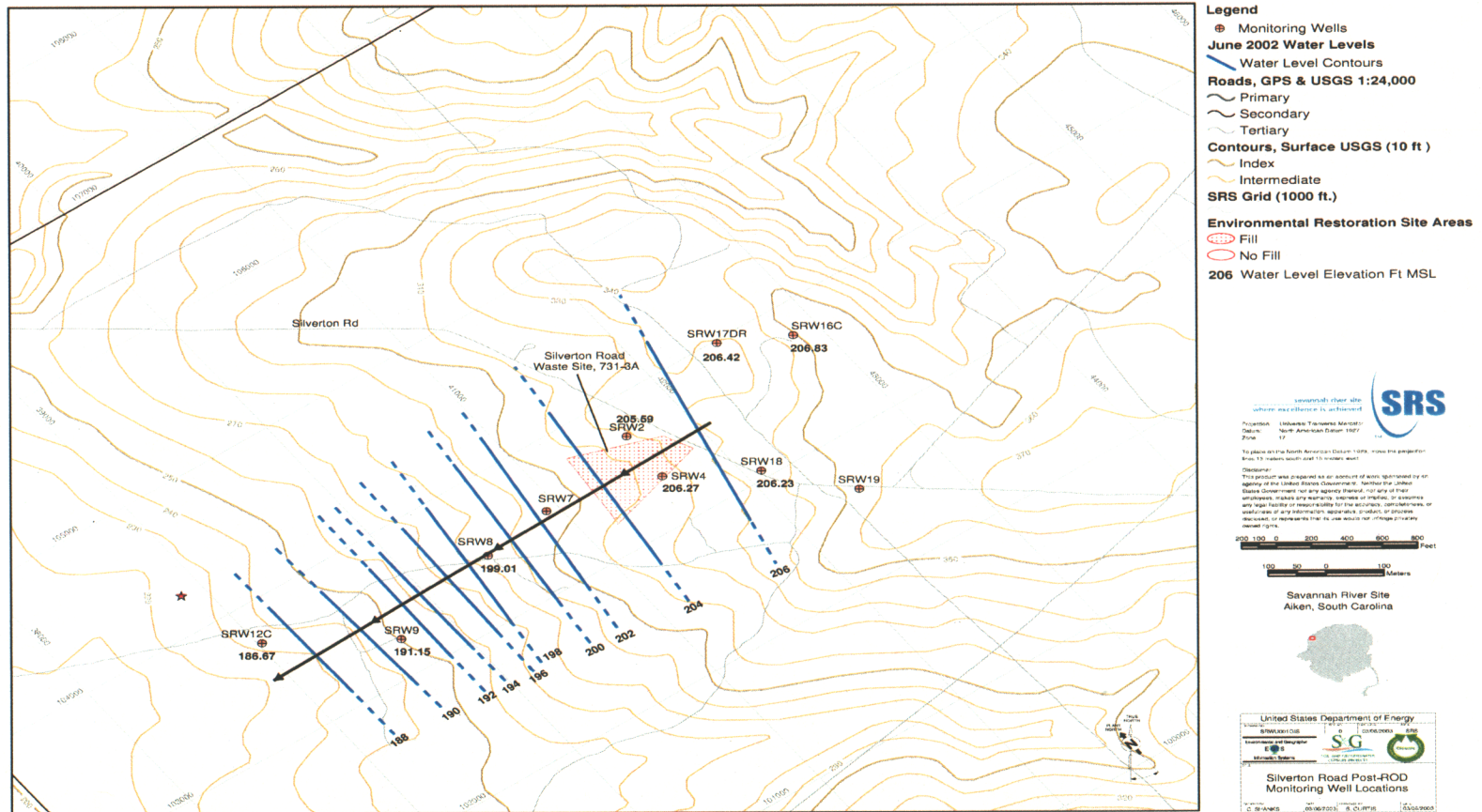
The remedy as stated in the SRWU ROD (WSRC-RP-96-171, Revision 1, February 1997) consisted of Institutional Controls for soils and no Remedial Action with Groundwater Monitoring for the SRWU "M Area" groundwater aquifer. The Institutional Controls include warning signs that are posted at the waste unit, use of existing SRS access controls for trespassers, use of the SRS Site Use and Site Clearance Programs for on-site workers, and land use restrictions. In addition, field walkdowns are conducted semi-annually to

verify the condition of the warning signs and the waste unit. A confirmatory groundwater monitoring program was established in the *Final Remediation Report (FRR) for the Silverton Road Waste Unit (731-3A) (U)* (WSRC-RP-97-153, Revision 1.1, March 1998).

### **Basis for the Explanation of Significant Difference**

The purpose of this ESD is to document a Post-ROD change to the remedy selected for the SRWU. The significant difference from the original remedy is to discontinue groundwater monitoring at the SRWU because the confirmatory groundwater-monitoring program has demonstrated that the remedial goals for groundwater have been reached.

Under the confirmatory groundwater-monitoring program, ten monitoring wells, including three new wells, were selected to monitor the extent and concentration of the contaminant plume over time (Figure 3). The monitoring wells included: background wells SRW-16C, -17DR, -18, and -19; side gradient wells SRW-2 and -4; and down gradient wells SRW-7, -8, -9, and -12C. In accordance with the FRR, groundwater samples were collected from the ten monitoring wells twice a year during the 2<sup>nd</sup> and 4<sup>th</sup> quarters of each calendar year, beginning in the fourth quarter of 1998. The samples were analyzed for 1,2-DCA, carbon tetrachloride, dichloromethane, PCE, and TCE. The data were submitted annually for regulatory review as part of the FFA Annual Progress Report.



The FRR stated that analytes that did not exceed background concentrations or Safe Drinking Water Act MCLs, as applicable, for four sequential monitoring events would be proposed for removal from the list for subsequent monitoring with concurrence from the USEPA and the SCDHEC. The data for the SRWU have been reviewed based on these criteria (see *Technical Evaluation for Groundwater Monitoring at the Silverton Road Waste Unit (731-3A) (U)*, WSRC-RP-2003-4037, Revision 0, March 2003). The last MCL exceedance occurred in the 4<sup>th</sup> quarter 1999 at SRW 7 for carbon tetrachloride. Carbon tetrachloride was not detected above the MCL (5 µg/L) for the next four sequential monitoring events. Furthermore, the data show that none of the COCs in the groundwater have been detected above MCLs from May 2000 through May 2003, and trends are decreasing or stable. Thus, the requirements of the FRR have been met. The SRWU Technical Evaluation was submitted to the USEPA and SCDHEC on March 31, 2003. The USEPA and SCDHEC reviewed the document and provided their approval to discontinue groundwater monitoring on May 6, 2003 and June 17, 2003, respectively.

SRS submitted the SRWU well abandonment program plan to SCDHEC on March 23, 2004. Twenty groundwater monitoring wells, SRW-1, -1BB, -2, -4, -4BB, -5, -7, -8, -8BB, -9B, -10, -10BB, -11, -12B, -14C, -17BB, -17C, -17DR, -18 (permitted as -18D), and -19 (permitted as -19D), were requested and approved for abandonment. Seven of the twenty wells (SRW-2, -4, -7, -8, -17DR, -18, -19) were being

sampled as part of the SRWU confirmatory groundwater-monitoring program. The other thirteen wells were no longer required as part of any other groundwater monitoring program. SCDHEC approved the well abandonment program plan for all twenty wells on April 7, 2004. The twenty wells were abandoned from May 20, 2004 through June 29, 2004. The well abandonment reports for all twenty wells were submitted to the SCDHEC on July 20, 2004.

### **Description of Significant Differences and the Basis for those Differences**

The original approved remedy as identified in the ROD (WSRC-RP-96-171, Revision 1, February 1997) and FRR (WSRC-RP-97-153, Revision 1.1, March 1998) included Institutional Controls for the SRWU soils and No Remedial Action with Groundwater Monitoring for the "M Area" groundwater aquifer. The significant difference of the modified remedy from the original remedy is to discontinue the confirmatory groundwater-monitoring program. An evaluation of the groundwater-monitoring program has indicated that the monitoring is no longer required as the remedial goals for groundwater have been reached. The Institutional Controls will still be required for the SRWU soils.

### **Support Agency Comments**

Comments from the USEPA and SCDHEC were incorporated into the ESD.

### **Statutory Determinations**

The modified remedy, Institutional Controls for soils, satisfies the requirements of CERCLA 121, is protective of human health and the

environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. The size of the waste unit and the random distribution and low levels of contaminants preclude a remedy in which treatment is a practical alternative. Therefore, this remedy does not satisfy the statutory preference for treatment as a principal element.

Since hazardous substances, pollutants, or contaminants remain in the waste unit, Institutional Controls will be maintained to prevent unrestricted use of the area. Section 300.430 (f)(4)(ii) of the NCP requires that a five-year remedy review be performed if hazardous substances, pollutants, or contaminants remain in the waste unit. The three Parties have determined that a five-year remedy review of the institutional controls effectiveness will be performed to ensure continued protection of human health and the environment. Since the groundwater-monitoring program demonstrated that the SRWU is not impacting groundwater above MCLs, the five-year remedy review will not include the groundwater portion of the operable unit.

### **Public Participation Activities**

The public will be informed of the changes to the selected remedy as specified in this ESD through mailings of the *SRS Environmental Bulletin*, a newsletter sent to approximately 3,500 citizens in South Carolina and Georgia, and through the *Aiken Standard*, the *Allendale Citizen Leader*, the *Barnwell People Sentinel*, *The State*, and the *Augusta Chronicle* newspapers.

To obtain more information concerning this ESD or to submit written comments, contact:

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